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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,465	10/20/2003	Sadeg M. Faris	PA1053	4840
26665	7590	12/21/2006	EXAMINER	
REVEO, INC. 3 WESTCHESTER PLAZA ELMSFORD, NY 10523			LAMBELET, LAWRENCE EMILE	
			ART UNIT	PAPER NUMBER
			1732	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/21/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/690,465

Applicant(s)

FARIS, SADEG M.

Examiner

Lawrence Lambelet

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's amendment filed on 10/20/2003 is acknowledged. Cancelled claims 1-6 and 23-37 are placed of record in the file. Claims 7-22 are pending for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 15 is rejected under 35 U.S.C. 102(a) as being anticipated by Etzbach et al (WO 98/12265).

All citations to Etzbach et al, hereinafter "Etzbach", will be from the English language family document, U.S. Patent 6,136,251.

Etzbach discloses a method of forming pigment particles of defined shape and size reading on claim 15. Etzbach teaches treating a patterned structure having through openings (mask) with a polymerizable mixture such that the openings are filled with the mixture and polymerized therein to form particulate when removed therefrom. See the Abstract and lines 48-58 in column 1. Etzbach further teaches that a substrate

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film can be used to facilitate the depositing of a layer of mixture through the structure to reside in the voids. See lines 48-58 in column 1. Etzbach still further teaches that the particles are platelets. See lines 8-12 in column 13.

Claims 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Faris (U.S. Patent 5,364,557).

Faris discloses a method of making patterned platelets reading on claim 21. Faris teaches forming a film of cholesteric liquid crystals, covering it with an etch-resist pattern (mask), and etching away exposed regions to produce platelets. See lines 21-31 in column 6. The perimeters of the unprotected regions of the etch resist inherently define spatial markings, as required by claim 22.

Claim Rejections - 35 USC § 103

Claims 7-8, 11-13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Etzbach as applied to claim 15, and further in view of Hull (U.S. Patent 4,575,330).

Etzbach teaches the method of claim 15, as discussed above.

Etzbach teaches preparing a mixture of polymerizable material, spreading a layer on a substrate and applying a patterned structure to the mixture, as required by claim 7. See the Abstract and lines 48-58 in column 1.

Etzbach teaches that the mixture can include cholesteric liquid crystalline compositions, as required by claim 8. See lines 49-55 in column 4.

Etzbach does not teach exposing a curable polymer layer to actinic radiation through a mask, as required by claim 7.

Hull teaches a collimated broad UV (actinic) light source combined with an apertured mask to cure selected regions of a liquid polymer lamina spread over a work surface. See lines 6-15 in column 10.

This is a variation on Hull's well-known stereolithographic method, which is described at lines 63-68 in column 2 and 1-30 in column 3. In this method, a laser beam driven by a computer "prints" thin layers one on top of another corresponding to 2-D slices of a 3-D virtual object in the computer. In like manner, successive masks can be laid layer by layer to build a 3-D object, as suggested by Hull, and as required by claims 12, 14, 16, and 19. It would have been obvious to one of ordinary skill to vary the masks thereby to create spatial markings, as required by claims 13 and 18.

Hull teaches that the materials can be varied layer to layer, as required by claim 17. See lines 32-39.

Spatial markings, as required by claim 11, are necessarily provided by the outlines in an apertured mask.

Etzbach and Hull are combinable because they are concerned with a similar technical field, namely, freeform production. One of ordinary skill in the art at the time of the invention would have found it obvious to include the radiation mask as taught by Hull in the filled-net method of Etzbach. The motivation to do so would have been to utilize computer-generated graphics for improved design and processing. See lines 63-68 in column 4 of Hull.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Etzbach in view of Hull as applied to claims 7-8, 11-13 and 15-19 above, and further in view of Coates et al (U.S. Patent 6,207,770).

Etzbach/Hull teach the method of claims 7-8, 11-13 and 15-19, as discussed above.

Etzbach teaches that chiral compound dopants are added to cholesteric liquid crystal mixtures, as required by claims 9 and 10.

Etzbach/Hull does not teach varying the dopants to control helical pitch resulting in reflection or transmission of specific portions of the spectrum, as also required by claims 9 and 10.

Coates et al, hereinafter "Coates", teaches that the pitch of the helix, and therefore the wavelength of reflection (and transmission/absorption), is controlled by the concentration of chiral compound. See lines 1-10 in column 13.

Etzbach/Hull and Coates are combinable because they are concerned with a similar technical field, namely, cholesteric liquid crystal platelets. One of ordinary skill in the art at the time of the invention would have found it obvious to include variable color design as taught by Coates in the platelet production method of Etzbach/Hull. The motivation to do would have been to control the optical and mechanical properties of the platelets. See lines 7-14 in column 17.

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Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Etzbach in view of Hull as applied to claims 7-8, 11-13 and 15-19 above, and further in view of Farris.

Etzbach/Hull teach the method of claims 7-8, 11-13 and 15-19, as discussed above.

Etzbach/Hull do not teach a subtractive method, as required by claim 20.

Farris teaches a subtractive method, as discussed above for claims 21-22.

Etzbach/Hull and Farris are combinable because they are concerned with a similar technical field, namely, cholesteric liquid crystal platelets. One of ordinary skill in the art at the time of the invention would have found it obvious to include the etching technique as taught by Farris in the masking process of Etzbach/Hall. The motivation to do so would have been to process platelets on an already polymerized substrate having layered chiral construction designed to produce 100% reflectance and brilliant color.

See lines 40-60 in column 3 of Farris.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents are cited to further show the state of the art with regard to coded markers:

U.S. Patent Application Publication 2002/0093115 to Jang et al (not prior art)

U.S. Patent 5,116,548 to Mallik et al

U.S. Patent 5,626,919 to Chapman et al


U.S. Patent 6,114,018 to Phillips et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Lambelet whose telephone number is 571-272-1713. The examiner can normally be reached on 8 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LEL
12/15/2006


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12/15/06